

CLAIMS

1. A hydraulically driven vehicle, comprising:
  - a hydraulic pump;
  - a variable displacement hydraulic motor for traveling;
  - driven by pressure oil from the hydraulic pump;
  - a motor displacement control means for adjusting a displacement of the hydraulic motor in correspondence to a drive pressure at the hydraulic motor;
  - an operating member through which a forward travel command and a backward travel command for the vehicle are issued;
  - a control means to be driven in response to an operation of the operating member, for controlling a flow of pressure oil from the hydraulic pump to the hydraulic motor;
  - a reverse operation detection means for detecting a reverse operation of the operating member performed to a reverse side opposite from a direction along which the vehicle is advancing; and
  - a cavitation preventing means engaged in operation so as to prevent occurrence of cavitation at the hydraulic motor when the reverse operation at the operating member is detected by the reverse operation detection means.
2. A hydraulically driven vehicle according to claim 1, wherein:

the cavitation preventing means is a displacement control circuit that inhibits an increase in the displacement of the hydraulic motor when the reverse operation at the operating member is detected by the reverse operation detection means.

3. A hydraulically driven vehicle according to claim 1, wherein:

the cavitation preventing means is an operation signal control circuit that blocks an operation signal from the operating member when the reverse operation at the operating member is detected by the reverse operation detection means.

4. A hydraulically driven vehicle according to claim 1, wherein:

the cavitation preventing means is a cutoff control circuit that cuts off the flow of pressure oil from the hydraulic pump to the hydraulic motor when the reverse operation at the operating member is detected by the reverse operation detection means.

5. A hydraulically driven vehicle according to claim 1, wherein:

the cavitation preventing means is a  
25 motor-displacement-control-drive-pressure-reducing

circuit that reduces the drive pressure based upon which the displacement of the hydraulic motor is controlled when the reverse operation at the operating member is detected by the reverse operation detection means.

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6. A hydraulically driven vehicle according to any one of claims 1 to 5, further comprising:

    a rotation speed detection means for detecting a physical quantity having a correlation to a rotation speed of the hydraulic motor, wherein:

    the cavitation preventing means engages in operation so as to prevent occurrence of cavitation when the physical quantity detected by the rotation speed detection means exceeds a reference value and the reverse operation at the operating member is detected by the reverse operation detection means.

7. A hydraulically driven vehicle according to claim 6, wherein:

    the physical quantity is a vehicle speed and the reference value is set to a smaller value as a gear ratio increases.

8. A hydraulically driven vehicle according to claim 6, further comprising:

25     an inertial force detection means for detecting an

inertial force applied to the vehicle, wherein:

the reference value is set to a smaller value as a greater inertial force is detected.

5 9. A hydraulically driven vehicle according to claim 8,  
wherein:

the inertial force detection means detects a grade of a road surface and the reference value is set to a smaller value as the grade becomes steeper.

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10. A hydraulically driven vehicle according to claim 8,  
wherein:

the inertial force detection means detects a vehicle weight, and the reference value is set to a smaller value as  
15 the vehicle weight becomes greater.